AMPLIFIER PRE-DISTORTION PROCESSING BASED ON COMPOSITE LOOK-UP TABLES

ABSTRACT OF THE DISCLOSURE

Current and previous input signal power measures are used to generate a combined index value that is applied to one or more composite look-up tables (e.g., an I LUT and a Q LUT) to retrieve one or more pre-distortion parameters (e.g., I and Q). In one embodiment, a combined index value is generated by concatenating current and previous power measures, where each composite LUT maps all possible combinations of the current and previous power measures to the corresponding pre-distortion parameters values. By using a composite LUT for each of I and Q, the overall signal processing time of the pre-distortion processing can be greatly reduced relative to the prior art, resulting in a significantly smaller RF delay line used to delay the input signal and thereby providing a less costly and more efficient amplifier system.